

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the Application.

Listing of Claims:

1. (Original) A method for optimizing a display of a route map, the method comprising:
fitting a collection of reference points in said route map with a probability distribution function, each said reference point corresponding to a position of an intersection in said route map;

deriving (i) a mean position of said collection of reference points, (ii) a first farthest position in which a member of said collection of reference points extends in a first direction away from said mean position, (iii) and a second farthest position to which a member of said collection of reference points extends in a direction that is orthogonal to a vector between said mean position and said first farthest position;

computing a bounding box, wherein a size and orientation of said bounding box is determined by said mean position, said first farthest position and said second farthest position; determining a direction of the long axis of said bounding box;

rotating said route map, by an amount that is sufficient to reorient said long axis so that said long axis lies in a predetermined orientation, to form a rotated route map;

and presenting a portion of said rotated route map, thereby optimizing said display of said route map.

2. (Original) The method of claim 1, wherein said probability function is selected from the group consisting of a binomial distribution, a Poisson distribution, and a Gaussian distribution.

3. (Original) The method of claim 1, wherein said predetermined orientation is chosen so that a starting point in said rotated route map is in a designated location.

4. (Original) A computer program product for use in conjunction with a computer system, the computer program product comprising a computer readable storage medium and a computer program mechanism embedded therein, the computer program mechanism comprising:

a map optimization module for optimizing a display of a route map, said map optimization module comprising: instructions for fitting a collection of reference points in said route map with a probability distribution function, each said reference point corresponding to a position of an intersection in said route map;

instructions for deriving (i) a mean position of said collection of reference points, (ii) a first farthest position in which a member of said collection of reference points extends in a first direction away from the mean position, (iii) and a second farthest position to which a member of said collection of reference points extends in a direction that is orthogonal to a vector between said mean position and said first farthest position; instructions for computing a bounding box, wherein a size and orientation of said bounding box is determined by said mean position, said first farthest position and said second farthest position; instructions for determining a direction of the long axis of said bounding box;

instructions for rotating said route map, by an amount that is sufficient to reorient said long axis so that said long axis lies in a predetermined orientation, to form a rotated route map; and

instructions for presenting a portion of said rotated route map, thereby optimizing said display of said route map.

5. (Original) The computer program product of claim 4, wherein said probability function is selected from the group consisting of a binomial distribution, a Poisson distribution, and a Gaussian distribution.

6. (Original) The computer program product of claim 4, wherein said predetermined orientation is chosen so that a starting point in said rotated route map is in a designated location.

7. (Original) A computer system for optimizing a display of a route map, the computer system comprising:

a central processing unit;

a memory, coupled to said central processing unit;

a viewport for displaying said route map;

a program module, executable by said central processing unit, said program module

comprising:

instructions for fitting a collection of reference points in said route map with a probability distribution function, each said reference point corresponding to a position of an intersection in said route map;

instructions for deriving (i) a mean position of said collection of reference points, (ii) a first farthest position in which a member of the collection of reference points extends in a first direction away from the mean position, (iii) and a second farthest position to which a member of said collection of reference points extends in a direction that is orthogonal to a vector between said mean position and said first farthest position;

instructions for computing a bounding box, wherein a size and orientation of said bounding box is determined by said mean position, said first farthest position and said second farthest position; instructions for determining a direction of the long axis of said bounding box;

instructions for rotating said route map, by an amount that is sufficient to reorient said long axis so that said long axis lies in a predetermined orientation, to form a rotated route map; and

instructions for presenting a portion of said rotated route map on said viewport, thereby optimizing said display of said route map.

8. (Original) The computer system of claim 7, wherein said probability function is selected from the group consisting of a binomial distribution, a Poisson distribution, and a Gaussian distribution.

9. (Original) The computer system of claim 7, wherein said predetermined orientation is chosen so that a starting point in said rotated route map is displayed in a designated location in said viewport.

10. (Original) The computer system of claim 9, wherein said designated location is the top or bottom of said viewport.

11. (Original) The computer system of claim 7, wherein:
said viewport has a horizontal dimension x and a vertical dimension y ;

said portion of said rotated route map displayed on said viewport representing a full vertical component of said rotated route map and a subset of a horizontal component of said rotated route map;

said program module further comprising:

instructions for associating a scroll bar with said horizontal dimension of said viewport, whereby, in response to directed input, the full horizontal component of said rotated route map is accessible.

12. (Original) The computer system of claim 7, wherein:

said viewport has a horizontal dimension x and a vertical dimension y ;

said portion of said rotated route map displayed on said viewport representing a full horizontal component of said rotated route map and a subset of a vertical component of said rotated route map;

said program module further comprising:

instructions for associating a scroll bar with said vertical dimension of said viewport, whereby, in response to directed input, the full vertical component of said rotated route map is accessible.

13. (Original) The computer system of claim 12, wherein said predetermined orientation is vertical.

14. (Original) The computer system of claim 7, wherein said route map has a constant dimension and a variable dimension orthogonal to said constant dimension, the length of the variable dimension determined by a number of steps or a distance of a route within said route map.

15. (Original) The computer system of claim 7, wherein said computer system is a personal digital assistant.

16-111. (Canceled)